

WHAT IS CLAIMED IS:

1. A high power semiconductor device having a plurality of gate electrodes, the device comprising:

an active region of an approximately rectangular shape

5 formed on a semiconductor substrate;

a drain electrode formed on the active region; and

a first and a second source electrodes disposed on the both sides to the drain electrode in such a manner that the first and the second source electrodes face each other
10 across the gate electrodes,

wherein the directions of currents carried by the first and the second source electrodes are opposite to each other.

2. The semiconductor device according to claim 1,
15 wherein a first source via hole connected with the first source electrode and a second source via hole connected with the second source electrode are respectively disposed in regions which face each other across the active region.

3. The semiconductor device according to claim 2,
20 wherein all of the source wires connected with the first and the second source via holes are connected with the source via holes by air bridges which extend along the direction of the width of electrodes of the source wires.

4. The semiconductor device according to claim 2,
25 wherein the first source via hole is arranged off a

position which faces the second source via hole across the active region.

5 5. The semiconductor device according to claim 2, comprising a gate pad disposed adjacent to the first source via hole and a drain pad disposed adjacent to the second source via hole, wherein the source electrodes which are connected with the first source via hole outnumber the source electrodes which are connected with the second source via hole.

10 6. The semiconductor device according to claim 1, comprising a plurality of gate wires to which any one of the plurality of gate electrodes is connected, wherein the gate wires are connected with a grounded capacitance via a resistor.

15 7. The semiconductor device according to claim 6, comprising an external connection pad which is connected with the resistor, wherein the external connection pad and the capacitance are connected by a wire.

20 8. A high power semiconductor device having a plurality of source electrodes, the device comprising:

an active region of an approximately rectangular shape formed on a semiconductor substrate;

a plurality of source electrodes formed on the active region;

25 a drain electrode disposed such that the drain

electrode faces the source electrodes across a gate electrode; and

a bridge wire disposed above the source electrodes and connecting the source electrodes with each other,

5. wherein the source electrodes are connected with each other by the bridge wire so that the directions of currents carried by the source electrodes are alternately opposite to each other.

9. The semiconductor device according to claim 8, wherein the bridge wire is formed by a first and a second bridge wires, and the source electrodes connected with the first bridge wire and the source electrodes connected with the second bridge wire are disposed alternately.

10. The semiconductor device according to claim 8, wherein the bridge wire is formed by a plurality of bridge wires connecting between the source electrodes which are adjacent to each other in such a manner that the plurality of source electrodes are connected in series.

11. The semiconductor device according to claim 8, comprising a plurality of gate wires to which any one of the plurality of gate electrodes is connected, wherein the gate wires are connected with a grounded capacitance via a resistor.

12. The semiconductor device according to claim 11, comprising an external connection pad which is connected

with the resistor, wherein the external connection pad and the capacitance are connected by a wire.